

**REMARKS**

Claims 1 and 5 are pending in this application. By this Amendment, claim 1 has been amended and claim 5 has been added. Claims 1 and 5 are independent. Reconsideration of the application is respectfully requested.

**I. Amendment**

Support for the amendment to claim 1 and new claim 5 can be found in the specification at, for example, original claims 1-3 and Table 1. Thus, no new matter is added.

**II. Interview**

Applicant appreciates the courtesies shown to Applicant's representative by Examiners Orlando and Griffin at the April 13, 2010 personal interview. Applicant's separate record of the substance of the interview is incorporated into the following remarks.

**III. The Claims Define Patentable Subject Matter**

The Office Action rejects claim 1 under 35 U.S.C. §103(a) over WO2001/023069 to Ohno et al. (Ohno) in view of U.S. Patent No. 6,673,414 to Ketchum et al. (Ketchum) and U.S. Patent Application Publication No. 2002/0078667 to Ishihara et al. (Ishihara). This rejection is respectfully traversed.

Independent claim 1 recites, *inter alia*, "the central portion has an additional filling percentage set within a range of 0.1 to 3% to a total area of an end surface of each honeycomb segment at the inlet." The applied references fail to teach or render obvious the recited features of independent claim 1.

As discussed during the interview, the Office Action acknowledges that Ohno and Ketchum fail to disclose that the central portion has an additional filling percentage set within a range of 0.1 to 10% to a total area of an end surface of each honeycomb segment at the inlet, which covers the recited range of 0.1 to 3%. However, the Office Action alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made

to have modified the reference to include the recited range for the additional filling percentage, since discovering the optimum or workable range involves only routine skill in the art.

Section 2144.05(III) of the MPEP recites that the applicant "can rebut a presumption of obviousness based on a claimed invention that falls within a prior art range by showing 'that there are new and unexpected results relative to the prior art.'"

As discussed during the interview and as argued in the July 7, 2009 Amendment, when the central area has an additional filling percentage set within a range of 0.1 to 3% to a total area of an end surface, the decrease of maximum temperature percentage is significant while the pressure loss percentage is relatively small. For example, when the percentage of additional filling in the central portion is between 0.6 to 2.6, the decrease of the maximum temperature is between 5 and 23% while the increase in the pressure loss is about 1 to 16%. On the other hand, when the additional filling percentage in the central portion is less than 0.1, for example 0%, then there is 0% decrease of the maximum temperature, which is undesirable. In addition, when the additional filling percentage is greater than 3, for example 10.5%, the increase in the pressure loss is 95%, which is also undesirable. See Table 1 and Fig. 6 of the specification. Thus, unexpected results occur when the central portion has an additional filling percentage set within the range of 0.1 to 3%. Ohno and Ketchum fail to identify the criticality the combined simultaneous impact of the recited additional filling percentage on both the maximum temperature and pressure loss. Thus, the Ohno and Ketchum fail to teach or render obvious that the central portion has an additional filling percentage set within a range of 0.1 to 3% to a total area of an end surface of each honeycomb segment at the inlet. Ishihara fails to cure the deficiencies of Ohno and Ketchum. Accordingly, the applied references fail to teach or render obvious the recited features of independent claim 1.

Accordingly, withdrawal of the rejection of the claim is respectfully requested.

**IV. New Claim 5 Is Patentable**

New claim 5 is added. As discussed during the interview, new claim 5 is patentable at least due to its substantial similarity to independent claim 1 and for the additional features it recites.

**V. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1 and 5 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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